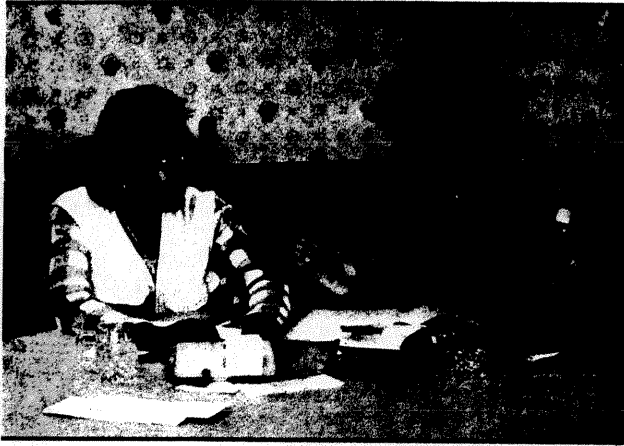


Improving Financial Literacy

— *What Schools and Parents Can and Cannot Do* —

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for the
Jump\$tart Coalition
for Personal Financial Literacy



JUMP\$TART!

FINANCIAL SMARTS FOR STUDENTS

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IMPROVING FINANCIAL LITERACY

What Schools and Parents Can and Cannot Do

TABLE OF CONTENTS

	Page
Preface.....	4
Acknowledgments	5
Executive Summary	6
Chapter 1 – Improving Financial Literacy.....	9
Background.....	9
Results of the 2000 Survey	9
A Description of the Survey	10
The Sample.....	10
The Survey Instrument.....	11
The Jump\$tart Coalition	11
Chapter 2 – Identifying the Problem	12
Test Results by Background	12
Results by Aspiration	14
Test Results by Money Management Education and Perceived	
Knowledge and Parental Interaction	14
Money Management	14
Classes at School	14
Perceived Knowledge	17
Parental Interaction	17
Test Results by Money Management Experience	17
Credit Card and ATM Use	18
Bank Accounts	21
Security Ownership	21
Employment History	21
Results by Subject Category	24
Subject Expertise by Money Market Experience	26
Subject Expertise by Money Market Education and	
Perceived Knowledge	29
Chapter 3 – Understanding Income	32
Introduction	32
The Importance of Education, Skills and Location	33
Question 18	33
Question 29	36
Question 5	39
Sources of Income	42

Question 28	42
Anticipating Taxes and Other Deductions	45
Question 26	45
Question 16	48
Question 2	51
Chapter 4 – Understanding Money Management	54
Introduction	54
Financial Goals and Plans	54
Question 25	54
Question 22	58
Understanding Insurance	61
Question 30	61
Question 7	64
Chapter 5 – Understanding Savings and Investment	68
Introduction	68
Budgeting to Save	68
Question 13	68
Short- and Long-Term Savings and Investment Strategies	71
Question 19	71
Risk, Return and Liquidity	74
Question 14	74
Question 9	77
Question 10	81
Question 15	84
Impact of Taxes and Inflation on Savings and Investment Decisions	87
Question 3	87
Question 17	91
Chapter 6 – Understanding Spending and Debt	94
Spending Now Versus Later	94
Question 6	94
Transaction Instruments	99
Question 4	99
Question 23	102
The Price of Credit	106
Question 20	106
Question 21	110
Question 8	114
Question 12	117
Credit History	121
Question 27	121
Question 1	125
Rights and Responsibilities	129

Question 24	129
Credit Overextension	133
Question 11	133
Chapter 7 – Research on Factors Relating to Financial Socialization	136
Appendix A – Personal Finance Guidelines of the JumpStart Coalition	185
Appendix B – Survey Sample and Questionnaire	195
About the Author	205

Preface

By Congressman Earl Pomeroy (D-ND)

After the Jump\$tart Coalition for Personal Financial Literacy released its pioneering 1997 study of the fiscal fitness of 12th graders, financial literacy began to get the attention it deserves. That study, by Dr. Lewis Mandell, Dean of the School of Management at the State University of New York at Buffalo, found that high school seniors in this country lacked even a basic knowledge of personal finance.

Last year, Dr. Mandell undertook a second national survey for the Jump\$tart Coalition, building on the 1997 results and gathering critical new data. The 2000 survey results, presented in this book, reveal a disturbing trend -- not only do our young people lack important personal financial skills, but today's high school seniors know even less about personal finance than their counterparts did three years ago. This publication examines the decline in youth financial literacy with a special focus on who among America's youth is most affected - and more importantly - how to empower those most affected.

As a father, I want my children to have all possible tools for success, including an understanding of personal finance. As a Member of Congress, I want that for all American children -- and I share the Jump\$tart Coalition's vision to achieve it. In 1999, Rep. David Dreier (R-CA) and I introduced the Youth Financial Education Act - a bill to fund youth financial education programs in elementary and secondary schools across the country. The success of that legislation will only be realized with the hard work of private-sector groups, who, like Jump\$tart, care about the financial success and stability of our nation's young people.

The task of making money management concrete and interesting to young people is a challenging one. Thanks to Dr. Mandell and Dara Duguay, Executive Director of the Jump\$tart Coalition, we now have critical insight into how to tackle that project. Their work reveals a deep commitment to youth financial education, and reminds us, as Dara Duguay has noted, "we are stronger together than we are individually." By joining their efforts, we can truly make a difference in the financial success of our nation's young people, and by extension, of all of us.

Acknowledgments

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IMPROVING FINANCIAL LITERACY What Schools and Parents Can and Cannot Do

Executive Summary

As the complexity of our financial system is further compounded by the myriad of new options available over the Internet, young adults find themselves less and less able to make financial decisions in their own best interest. A new *Personal Financial Survey* of high school seniors, conducted by the Jump\$tart Coalition for Personal Financial Literacy, finds that the level of financial literacy has declined from the dismal results of the first such survey administered in 1997.

In late 1999 and early 2000, we administered a *Personal Financial Survey* to 723 twelfth graders from across the country. The 30-question multiple-choice examination, designed by a team of educators, tested students' knowledge of personal finance in four basic categories: income, money management, savings and investment, and spending. Not only did the students perform poorly on the exam, achieving an average score of just 51.9 percent, they also did worse than the students who participated in the 1997 baseline survey, who achieved an average score of 57.3 percent. In addition, only 6.7 percent scored a "C" or better on the exam (75 percent correct), while a record 59.1 percent failed the exam (below 60 percent correct).

By far the two weakest areas of knowledge were money management (46.8 percent) and savings and investment (45.3 percent). By default, our students did substantially better (although not well by any means) in the areas of "getting and spending." When we designated credit as a separate area of spending, we found an average score of just 49.1 percent.

In opposition to the 1997 results, men did slightly better than women on the 2000 *Survey* (52.2 percent versus 51.6 percent). Men were also twice as likely as women (9.2 versus 4.7 percent) to score a "C" or better on the exam. Differences also existed for students of different racial backgrounds. The study was carefully designed to reflect the diversity of American twelfth graders and, in fact, only 62.4 percent of the sample were Whites, who answered, on average, 54.5 percent of the questions correctly. Asian Americans did nearly as well with 53.5 percent correct. Unfortunately, African Americans (47 percent), Hispanic Americans (45.3 percent) and Native Americans (38.6 percent) did not do nearly as well.

Contrary to expectations, differences in scores were not very dependent upon family income. Students with family incomes below \$20,000 per year averaged 46.3 percent in contrast to 55 percent for students from families in the over \$80,000 bracket. In fact, average scores were slightly *lower* for students in the top income bracket than for those in the bracket below (\$40,000 to \$79,999), indicating, perhaps, that more affluent, college-bound students were not as concerned as their less affluent counterparts with personal survival skills. However, the 2 percent of students who planned no education beyond high school did markedly worse on the exam (39.7 percent) than did others.

The lack of financial literacy uncovered by these studies greatly understates the magnitude of the problem since the sample excluded high school dropouts and picked up only 1.7 percent who planned no additional education. Since students who were not college bound did substantially worse than the others, the study may have omitted as many as a third of all 18-

year-olds who will not graduate from high school or who plan no additional education. Had these students been included, it would have caused a further decrease in the overall results. Therefore, the plan of the JumpStart Coalition to encourage the teaching of financial literacy in all grade levels is critical.

The results are even worse than they appear. The fact that students were able to choose correct answers just more than half the time, on average, was due in part to a number of questions that tested *terminology* rather than reasoning ability. For example, 71.2 percent knew that salaries, wages and tips constituted primary sources of income for most people between the ages of 20 and 35 (a decline from 89.1 percent in 1997), but fewer than 40 percent suspected that income taxes would at least double if a person's income doubled (from \$15,000 to \$30,000 per year). The inability to *apply* the concept of income tax progressivity hinders the decision making ability of young labor force entrants who may tend to overcommit themselves in anticipation of overestimated future take-home pay.

Why do our high school students continue to score poorly on this exam? Why are the results worsening? Some of the decline, I believe, can be attributed to the pressure placed on high schools to narrowly, and almost exclusively, focus their curriculums on subjects designed to help their students achieve passing rates on basic exit exams. This has left little room or incentive for the development of progressive courses such as personal finance within most high school curricula. In fact, some of the high schools we contacted refused even to administer our *Personal Financial Survey* to their students, fearful that poor scores on our exam would require them to focus some of their resources on courses other than those targeted toward the exit examinations.

We certainly should have empathy for the challenges confronting our nation's high school teachers and administrators, but we must also recognize the disastrous effects of not properly preparing our teenagers for the financial realities of modern life. Bankruptcy, poor retirement planning and debilitating debt are some of the predicaments that lie ahead for our children if they are not given a proper education in personal finance while they're in high school.

Unfortunately, common parental methods used for instructing children in personal finance are shown to be mostly ineffective. One hypothesis, for example, contends that teenagers who receive a regular allowance gain increased knowledge of personal finance. In our survey, however, students who received a regular allowance scored worse than did students who did not receive an allowance (48.9 percent compared to 51.9 percent). Also, students whose parents often discuss money matters with them scored no better (52.6 percent) statistically than did students whose parents sometimes (52.5 percent) or rarely (52.4 percent) discuss money matters with them.

The effectiveness of other practical, experiential strategies for developing financially savvy teens is also called into question by the survey results. For instance, students who own stocks in their own name were no more financially sophisticated than students who don't own any stock (both scored 52.6 percent), and students who own a credit card scored worse in the survey (49.1 percent) than did teens who don't use a credit card (53.3 percent).

The survey results did point out, however, one area of student improvement that gives us reason for hope and direction for the future. Students surveyed in 2000 demonstrated a greater understanding of investing and the role of the stock market than did students surveyed in 1997. Improvement in this area most likely is the result of increased media coverage of the stock market. Most significantly, those students who participated in the Stock Market Game, a highly interactive and fun instructional tool, scored better on the survey (55.1 percent) than did students

who completed an entire course in money management (51.4 percent) or an entire course in economics while in high school.

Based on that result, one can conclude that highly interactive, reality-based courses in money management—which provide intensive and applied instruction in personal finance—are effective for developing financially savvy teens. These types of courses should become the standard for personal finance and money management instruction at the high school level.

How do we make these types of personal finance courses the norm instead of the exception in high school classrooms around the country? I believe that two things must happen:

1. States need to recognize that high school is the appropriate time and place to provide young adults with meaningful instruction in personal finance, and they must mandate the inclusion of highly interactive, creative and applied courses in personal finance within their high school curriculum standards.
2. Organizations that already work with high school students, such as the Security Industry Association, Junior Achievement and Economics America, should be encouraged to develop curricula that facilitate sound basic financial decision making that is relevant to young adults.

What can parents do to improve the financial literacy of their children? Based upon the results of this study, the most useful thing they can do is to pressure their local schools to offer interesting and effective courses in personal financial literacy taught by teachers who themselves are financially literate. Unfortunately, unless parents themselves are both financially literate and capable of teaching these principles to their own children, available tools such as allowances and even discussion of family financial circumstances appear to offer little benefit.

Until our schools are willing to offer effective instruction to all students on the skills needed to survive in our economy, we can expect students to continually score poorly on personal finance exams, such as those that we administered in 1997 and 2000, and we can expect them to continue to make poor financial decisions and encounter financial difficulties, large and small, as adults.

CHAPTER 1

IMPROVING FINANCIAL LITERACY

Background

In early 1997, the Jump\$tart Coalition for Personal Financial Literacy conducted its first nationwide survey of twelfth grade students to determine the ability of our young people to survive in today's complex economy. The widely reported results were not reassuring. Of the 1532 high school seniors surveyed, only 10.2 percent were able to correctly answer at least three-quarters of the basic, age-relevant questions. In fact, the average "grade" on the "exam" was just 57.3 percent, a failure under any grading system.

The *Personal Financial Survey* was designed for several purposes. Its primary function was to gauge whether our young adults possess the tools and knowledge of personal finance required to get started in life without mishap. The results of the first survey clearly indicated that they do not!

A second function of the survey was to find out which tools are most lacking so that the problems could be addressed by concerned schools and school systems. A positive result of the first survey was to raise awareness of the problem and encourage educators, authors and entrepreneurs to produce materials that can be used to educate our young people.

A third function of the survey was to form a baseline measurement of financial literacy so that the effectiveness of interventions can be measured in periodic follow-up studies. The Jump\$tart Coalition planned to administer a version of the *Personal Financial Survey* every two to three years to measure interim progress toward the overall goal of universal financial literacy for all American high school graduates.

Results of the 2000 Survey

In late 1999 and early 2000, a second nationwide survey was administered to 723 high school seniors. The results were substantially worse than those of the first survey, conducted three years earlier. Overall test scores fell from 57.3 percent to just 51.9 percent. Students showed some improvement in a small number of specific areas. As the result of a 9-year bull market, they were, for example, more likely to think the long-term growth potential of common stocks exceeded that of savings accounts. However, the few bright spots were more than offset by decreased understanding of the most practical and important personal financial concepts. One example is that the proportion of students who understood that a doubling of their income would result in at least a doubling of their federal taxes *fell* from 49.4 to 38.3 percent.

A Description of the Survey

The Sample

The sampling techniques of the 2000 survey were identical to those used in the 1997 survey in that a total of 150 public high schools from throughout the United States were chosen from a list of all public high schools available on-line from the U.S. Department of Education. The sample was stratified by the four primary Census regions and, within each region, schools were listed by size. A sampling interval was chosen to achieve a sample of approximately 150 schools, and a random starting number was chosen between zero and the sampling interval to begin the sampling process. The number of students in each of the schools was added together, beginning with the very smallest, until the randomly chosen starting number was reached. That school was chosen for inclusion in the sample, as was each school when the sampling interval after the random start was reached. This sampling method assured that schools of all sizes would be included and that the probability that any school would be chosen was proportional to the size of that school.

Letters were sent to the principals of the 150 selected schools, explaining the purpose of the study and asking for their cooperation. Principals who were personally known by members of the JumpStart Coalition were contacted by phone as well. They were asked to select a twelfth grade class in English or Social Studies (aside from economics) to participate in the survey. This was done to avoid biasing the results by specifically selecting classes in economics, business and related areas. To further randomize the process, principals were asked to select classes meeting closest to 10 a.m.

Two small incentives were offered to help gain the cooperation of the schools. The school libraries were offered a set of materials on personal finances, and the teacher who administered the survey was offered a \$100 U.S. government savings bond. Some participating teachers declined the offer of the bond.

In all, 32 of the 150 schools participated, a response rate of 21.3 percent. This was half of the 43.6 percent response rate that had been achieved just three years previously using identical techniques. Although the response rate was disappointing, the demographics of the two studies were very similar, indicating that they were both reasonably representative of the population of twelfth graders in the public schools.

In an attempt to increase the response rate, numerous calls were made to the principals of the high schools that had fallen into the sample. A similar response was heard from the principals who would not allow their schools to participate in the study. While they were interested in the research and were concerned about the problem of financial literacy, they were also under incredible pressure to meet statewide achievement standards for their students and would consider nothing that would take even a single class period from their primary goal. In fact, the intense political focus on achieving minimum standardized test scores in basic subjects probably constitutes the greatest barrier to incorporating personal finance into the high school curriculum.

The Survey Instrument

The survey instrument contained 49 questions, of which the first 30 constituted the “test” part of the survey. All questions were multiple choice.

Prior to the first survey, members of the Jump\$tart Coalition identified four key areas of coverage in their *Personal Finance Guidelines*, which are reproduced as Appendix A. These areas were (1) income, (2) money management, (3) savings and investment and (4) spending and debt. The test questions attempted to cover the four key areas and their major subcategories. Wherever possible, questions were put into age- and life-cycle appropriate “case studies” to make them relevant to the students.

Prior to the creation of the 2000 survey, a subcommittee of the Jump\$tart Coalition recommended several changes from the 1997 survey. In order to discourage teachers from “teaching to the exam,” the order in which the questions appeared was changed from the original survey, as was the ordering of answers to each of the questions. Furthermore, cosmetic changes were made to the questions, including changes to the names used in those questions that were “mini-cases.”

Finally, based upon the recommendations of Jonathon Fox and Suzanne Bartholomae of Ohio State University, background questions were added to find out about students’ work experience, related coursework, experience with securities, allowances and interaction with parents on money matters. The survey instrument is reproduced in Appendix B.

The Jump\$tart Coalition

The Jump\$tart Coalition for Personal Financial Literacy was formed in December 1995 to “encourage curriculum enrichment to ensure that basic personal financial management skills are obtained during the K-12 educational experience.” In its mission statement, the non-profit coalition states that its purpose is to “evaluate the financial literacy of young adults; develop, disseminate and encourage the use of guidelines for grades K-12; and promote the teaching of personal finance.”

CHAPTER 2

IDENTIFYING THE PROBLEM

We first learned in the 1997 survey that the average high school senior is unable to pass a simple test of personal financial literacy. The 2000 survey showed that, if anything, the trend is negative. In this chapter, we examine the overall test results from both surveys to note areas of improvement and degradation and to examine linkages in the most recent survey between performance and the characteristics of the students.

In the earlier survey, we ran overall results by personal variables that we felt would be important. These variables included the students' backgrounds, aspirations, money management education and perceived knowledge and money management experience. In the 2000 survey, we added a number of additional questions that delved more deeply into the contributions made by parents and schools. The addition of these questions was prompted by hypotheses raised by the 1997 study that could not be answered by the data collected for the first time that year. For example, we knew the students' perception of where they learned most about managing money (school, home, friends, etc.), but did not know exactly what courses they may have taken in school. Nor did we know much about their learning environments at home, such as the extent to which their parents discussed money with them or in front of them and whether they received an allowance.

The additional questions were suggested by a special task force of the Jump\$tart Coalition based upon a detailed review of the literature by Jonathon Fox and Suzanne Bartholomae of Ohio State University. Their review, entitled "Research on the Factors Related to Financial Socialization and Proposed Measures of these Factors," is included as Chapter 7 of this report.

In addition to computing average (mean) test scores for each group, we also see what proportion of the groups did relatively well by earning at least a "C" (75 percent or better) and what proportion did poorly by failing the exam with a score of less than 60 percent.

Test Results by Background

Table 2-1 gives the results of the 2000 *Personal Financial Survey* by the backgrounds or demographics of the students. Overall, the mean score for all students who took this practical, 30-question test was just 51.9 percent, as compared with 57.3 percent in 1997, a drop of 5.4 percent. In addition, only 6.7 percent scored a "C" or better, and 59.1 percent failed the exam.

Students with higher incomes tended to do better than others on the exam although (consistent with the 1997 survey) there was a slight decrease in mean scores for those with the very highest incomes. Of those students whose parents' income totaled less than \$20,000 per year, the mean score was 46.3 percent in contrast to an average of 57.2 percent for students whose parents' income was between \$40,000 and \$79,999. This fell off slightly to 55.0 percent for students with parents whose income was over \$80,000 per year.

Examination results are also related to the education of the students' parents. If neither parent completed high school, the average score was 47.0 percent, rising to 55.1 percent for those who had at least one parent who completed college. Also, only 3.3 percent of those whose parents had less than a high school education scored a "C" or better on the exam, while 10.3 percent of those in the highest education category did this well.

Table 2-1
Test Results by Background

	<u>1997</u> <u>Mean</u> <u>Score</u>	<u>2000</u> <u>Mean</u> <u>Score</u>	<u>2000</u> <u>Proportion</u> <u>of Students</u>	<u>2000</u> <u>Percent C</u> <u>or Better</u>	<u>2000</u> <u>Percent</u> <u>Failing</u>
	57.3%	51.9%	100.0%	6.7%	59.1%
<u>Parents' Income</u>					
Less than \$20,000	55.2	46.3	12.9	3.2	73.4
\$20,000 to \$39,999	58.2	52.0	21.9	5.7	57.9
\$40,000 to \$79,999	59.6	57.2	27.8	12.4	46.0
\$80,000 or More	59.0	55.0	14.7	9.3	49.5
Don't Know	53.1	46.5	21.6	1.3	74.5
<u>Highest Level of</u> <u>Parents' Education</u>					
Neither Finished H.S.	51.4	47.0	12.7	3.3	77.2
Completed H.S.	57.1	49.7	24.4	6.2	62.7
Some College	55.8	53.8	24.8	6.1	55.0
College Grad or More	59.3	55.1	32.0	10.3	48.7
Don't Know	45.2	45.5	5.6	0.0	75.6
<u>Sex</u>					
Female	57.9	51.6	53.0	4.7	61.0
Male	56.9	52.2	46.6	9.2	56.8
<u>Race</u>					
White	60.9	54.5	62.4	9.1	51.4
African American	50.4	47.0	8.0	3.4	67.1
Hispanic American	55.1	45.3	16.5	2.5	79.2
Asian American	55.8	53.5	6.6	0.0	62.5
Native American	48.8	38.6	1.9	0.0	85.7
Other	52.2	51.2	3.4	8.0	60.0

In general, males did slightly better than females (52.2 percent versus 51.6 percent) on the examination, a reversal from the 1997 survey, although the difference in scores is not significant. Males were also more likely than females to earn a "C" or better (9.2 percent versus 4.7 percent) and were less likely to receive a failing grade (56.8 percent versus 61.0 percent).

Performance differences were more closely related to race than any other background variable. White students achieved the highest performance with a mean score of 54.5 percent, followed closely by Asian Americans with a score of 53.5 percent. Hispanic Americans and Native Americans fared least well, with mean scores of 45.3 percent and 38.6 percent respectively. Perhaps most importantly, *no* racial group, including Whites, had a majority of students passing the exam. The problem is national rather than one of race or poverty.

Results by Aspirations

Students were asked about their educational plans and occupational aspirations as well as the full-time income they anticipated making from their first job. The results are shown in Table 2-2.

Overall, more than 68 percent of students who participated in the survey planned to attend a 4-year college (up from 62 percent in 1997), and 61.6 percent planned to engage in a professional occupation. Income expectations were more varied, with 51.2 percent expecting to begin work at \$30,000 or more, and an additional 21.8 percent expecting to make between twenty and thirty thousand dollars.

Performance on the examination was positively related to level of aspiration. Those who aspired to a 4-year college education, professional work and a starting income of at least \$20,000 per year did a lot better than other students. Although there are staggering differences in this group's scores and those of other students, even the high aspiration students did not tend to pass the exam.

Results by Money Management Education, Perceived Knowledge and Parental Interaction

Money Management

Students were asked where they learned most about managing their money. They were also asked to rate their knowledge about money management compared to others their age. The results are contained in Table 2-3.

In the 2000 study, 12.8 percent reported learning most about money management at school, a slight increase from the 10.9 percent in the 1997 survey. Far more learned at home (57.4 percent) and from experience (23.0 percent). It is somewhat encouraging to learn that those students who reported learning most about managing money at school were most likely to score a "C" or better on the exam (10.8 percent) than those who learned the most from other sources.

Classes at School

In order to be able to better evaluate the effect of school-based money market education, the 2000 survey added a number of questions relating specifically to classes taken in personal finance, economics and related areas. The results are shown in the second section of Table 2-3. Unfortunately, those who had an entire course in money management, personal finance or

economics did slightly worse than average on the exam (although not statistically so) while those who had a portion of a course in these subjects did minutely better than average. The one bright light in this analysis is that students who played the Stock Market Game in class had an average score of 55.1 percent in contrast to the overall average of 51.4 percent.

Table 2-2
Test Results by Aspirations

	1997 Mean <u>Score</u>	2000 Mean <u>Score</u>	2000 Proportion <u>of Students</u>	2000 Percent C <u>or Better</u>	2000 Percent <u>Failing</u>
All Students	57.3%	51.9%	100.0%	6.7%	59.1%
<u>Educational Plans</u>					
No Further Ed.	43.8	39.7	1.7	0.0	91.7
2-year or Jr. College	53.8	47.3	16.3	5.1	72.0
4-year College	60.0	54.5	68.5	7.8	52.9
Other Training or Ed.	54.3	46.3	8.0	5.2	69.0
Don't Know	51.0	44.1	5.2	2.6	71.1
<u>Planned Occupation</u>					
Manual Work	45.5	38.7	3.9	3.6	75.0
Skilled Trade	55.7	43.6	5.5	5.0	72.5
Service Worker	54.4	41.3	9.8	1.4	74.6
Professional Worker	59.6	55.0	61.6	8.1	52.1
Other or Don't Know	54.2	49.0	18.6	6.7	65.2
<u>Expected Full-Time Income</u>					
Under \$15,000	47.4	40.6	3.6	0.0	80.8
\$15,000 to \$19,999	53.3	41.7	7.4	3.7	79.6
\$20,000 to \$29,999	58.5	53.4	21.8	7.0	53.2
\$30,000 or More	59.5	54.4	51.2	8.6	53.5
Don't Know	54.9	49.0	15.1	3.6	69.6

Perceived Knowledge

About a third of the students reported that they knew more than most people their age about money management, while slightly less than half reported that they knew about the same amount as most of their peers. Those who felt more knowledgeable did not do significantly better on the exam than their less self-confident contemporaries. In fact, those who felt that they knew *less* than most tended to be more likely to score a “C” or better and were less likely to fail the exam than their more self-assured peers, even though their mean scores were slightly below the average. Students just don’t seem to be able to judge how knowledgeable (or ignorant) they are on money matters. This also implies that students who feel confident about money management may be fooling themselves, thereby reducing demand for curriculum devoted to money management.

Parental Interaction

Questions were added to the 2000 survey to explore the effects of parental interaction on the financial literacy of their children. The first new question explored the extent to which students discussed money matters with their parents. As anticipated, the 6.7 percent of students who reported that their parents “never” discussed money matters with them did significantly worse on the survey than did the others, with an average test score of just 42.5 percent. Surprisingly, there was virtually no difference in the scores of students who reported that their parents discussed money matters with them “rarely,” “sometimes,” or “often.”

A second question asked about whether students received an allowance from their parents and whether the allowance was related to chores that they had to perform. Here, a couple of competing hypotheses were reasonable. One would say that a regular allowance would help students learn budgeting skills and would enhance financial literacy, while another would say that students who had to “earn” their spending money through chores within the home or jobs outside of it would have the incentive to become more financially sophisticated.

The last section of Table 2-3 tends to cast doubt on the efficacy of a regular allowance as a learning tool since recipients of this largesse did worse than others on the exam, with an average score of just 48.9 percent. There was little difference between those students who were given money as needed and those who received an allowance in return for chores.

Test Results by Money Management Experience

Students were asked a number of questions relating to their own money management experience in order to see whether such experience improved their overall knowledge. As reported in Table 2-3, 23 percent of the students reported learning most about money management from experience.

In the 1997 survey, little relationship was found between actual money management experience and financial literacy, leading to the conclusion that “... the tuition at the ‘school of hard knocks’ may prove to be very high.” In order to better understand this anomalous finding, additional questions were added to the 2000 survey to find out more about the students’ ownership of securities and their personal work histories. The results are reported in Table 2-4.

Credit Card and ATM Use

As in the 1997 survey, money management experience does not appear to be strongly related to overall financial literacy. For example, the 69.1 percent of students who don't use a credit card again had higher average test scores than those who do, and those who don't use an ATM card did just as well (if not slightly better) than those who do. If a student pays or helps pay for car insurance, this experience doesn't seem to boost financial literacy, either.

Table 2-3
Test Results by Money Management Education and Perceived Knowledge

	1997 Mean Score	2000 Mean Score	2000 Proportion of Students	2000 Percent C or Better	2000 Percent Failing
All Students	57.3%	51.9%	100.0%	6.7%	59.1%
<u>Where Student Learned</u>					
<u>Most About Managing</u>					
<u>Money</u>					
At Home	57.7	51.8	57.4	6.0	60.4
At School	54.8	51.3	12.8	10.8	59.1
From Friends	47.8	35.6	2.1	6.7	80.0
From Media	63.7	53.7	3.4	4.0	40.0
From Experience	58.0	53.5	23.0	7.2	56.9
<u>Classes in H.S.¹</u>					
<u>Entire Course, Money</u>					
Mgt./Personal Finance		51.4	14.0	6.9	56.9
<u>Portion of Course, Money</u>					
Mgt./Personal Finance		52.9	22.3	7.4	54.9
<u>Entire Course, Economics</u>					
		51.0	34.0	7.3	59.5
<u>Portion of Course, Economics</u>					
		52.1	22.7	6.1	58.8
Stock Mkt. Game in Class		55.1	24.5	10.7	47.8
<u>Money Management</u>					
<u>Knowledge Compared</u>					
<u>to Others</u>					
More than Most	58.5	53.4	33.1	9.6	64.2
Same as Most	57.7	52.3	49.3	3.0	62.4
Less than Most	54.5	49.7	9.9	15.0	50.0
Don't Know	50.9	46.0	6.9	7.2	57.6
<u>Discuss Money Matters</u>					
<u>with Parents</u>					
Never		42.5	6.7	8.2	79.6
Rarely		52.4	18.2	6.1	56.1
Sometimes		52.6	39.1	8.1	59.9
Often		52.6	34.7	5.6	56.0

¹ Percents may total more than 100 percent with multiple responses possible.

Table 2-3 (continued)
Test Results by Money Management Education and Perceived Knowledge

	1997 Mean <u>Score</u>	2000 Mean <u>Score</u>	2000 Proportion <u>of Students</u>	2000 Percent C <u>or Better</u>	2000 Percent <u>Failing</u>
<u>Allowance</u>					
Money as Needed		51.9	52.5	6.6	58.8
Allowance for Chores		51.6	35.3	8.6	59.0
Allowance in H.S.		48.9	10.5	2.6	61.8

Bank Accounts

The type of bank account that students have does tend to be related to financial literacy. The fourth section of Table 2-4 shows that students with savings accounts do significantly better than students with only checking accounts or those with no bank account at all. This is consistent with the 1997 findings although the differences between those with and without savings accounts has become more pronounced. A reasonable explanation for this is that those with savings accounts (59.2 percent of the student population) are more aware of the value of saving as part of an overall financial plan.

Security Ownership

In 1997, we found the strange result that students who owned securities in the form of stocks or mutual funds were no more knowledgeable than those who didn't. Those who owned mutual funds and no stocks did a little better on the 1997 exam than those who owned stocks. In the 2000 survey, we found literally no difference in financial literacy between those who owned no securities and those who owned stocks in either their own names or their parents' names and those who owned mutual funds in their own names. This supported the findings of the 1997 survey and seems to indicate that ownership of securities, per se, whether in the name of the child or the parent, does little to enhance financial literacy without some type of educational effort. Given the relative success of the Stock Market Game, which links security "purchase" to education about securities markets, it seems likely that educational efforts aimed at students who actually *own* securities would be likely to succeed in improving financial literacy.

Employment History

In the 2000 survey, for the first time, students were asked about their personal employment history. Once again, two viable hypotheses could be advanced about the relationship between working and financial literacy. On one hand, students who work during the school year could be seen as devoting less time to their studies and doing less well on all types of tests, including those of financial literacy. On the other hand, students who work could be seen as managing money that they themselves have earned, thereby making them more eager to acquire the tools of financial literacy.

The last section of Table 2-4 appears to support the notion that working for pay, even during the school year, does not decrease financial literacy and may even enhance it. While most scores were close to each other, the group that did worst consisted of those students who have never worked for pay.

Table 2-4
Test Results by Money Management Experience

	1997 Mean <u>Score</u>	2000 Mean <u>Score</u>	2000 Proportion <u>of Students</u>	2000 Percent <u>C or Better</u>	2000 Percent <u>Failing</u>
All Students	57.3%	51.9%	100.0%	6.7%	59.1%
<u>Credit Card Use</u>					
Uses Own Card	53.3	49.1	9.2	9.0	64.2
Uses Parents' Card	57.7	47.7	18.3	3.0	62.4
Uses Own & Parents'	55.4	53.8	2.8	15.0	50.0
Doesn't Use Card	57.9	53.3	69.1	7.2	57.6
<u>ATM Card Use</u>					
Uses	57.5	51.7	31.0	6.7	59.6
Doesn't Use	57.3	52.0	68.5	6.8	58.6
<u>Auto Use</u>					
No License	54.4	50.2	19.6	2.8	63.4
License, No Car	58.1	49.7	3.4	12.0	52.0
Share Car, Pay Insur.	55.0	47.5	7.3	1.9	64.2
Share Car, Don't Pay	58.9	53.4	14.6	11.3	56.6
Own Car, Pay Insur.	58.5	53.4	30.6	8.6	57.7
Own Car, Don't Pay	57.8	52.1	24.1	5.7	57.7
<u>Bank Account</u>					
None	54.2	49.3	37.8	6.7	66.8
Savings Only	58.3	53.8	41.0	6.7	53.7
Checking Only	56.4	45.6	7.3	5.7	75.5
Savings & Checking	60.0	54.9	18.2	7.6	50.0
<u>Security Ownership¹</u>					
None	57.1	52.6	75.3	6.6	57.8
Stocks in Own Name	58.4	52.7	9.2	9.0	55.2
Stocks in Parents' Name	---	52.5	6.9	8.0	50.0
Mut. Funds in Own Name	60.1	52.2	4.7	17.6	52.9
Mut. Funds in Parents' Name	---	45.4	3.9	3.6	71.4

¹ Wording in this question is slightly different than the 1997 question.

Table 2-4 (continued)
Test Results by Money Management Experience

	<u>1997 Mean Score</u>	<u>2000 Mean Score</u>	<u>2000 Proportion of Students</u>	<u>2000 Percent C or Better</u>	<u>2000 Percent Failing</u>
All Students	57.3%	51.9%	100.0%	6.7%	59.1%
<u>Employment History</u>					
Work FT Summers, PT School Year		52.8	33.7	6.9	57.6
Work FT Summers Only		50.3	9.4	8.8	64.7
Work PT Summers, PT School Year		52.3	28.9	7.1	58.1
Work PT Summer Only		52.6	12.7	6.5	57.6
Have Never Worked for Pay		49.2	14.6	4.7	61.3

Results by Subject Category

Thus far, we've looked at overall test results by categories relating to various student characteristics and demographics. It is possible, however, that different types of students vary in their performance by subject category. To test this, we divided the 30 questions into the four categories of income, money management, savings and investing, and spending,² and scored the results of each subject. A subset of the spending questions relating to credit were broken out separately as well. Tables 2-5, 2-6 and 2-7 show the results.

As they did in 1997, students in the 2000 survey scored best on the income questions, with an average of 57.6 percent, and worst in savings and investing (hereafter called "saving"), with an average of 45.3 percent. The overall score for money management was 46.8 percent and for spending it was 55.1 percent. Students did worse on the credit questions (49.1 percent) than they did on the non-credit spending questions. Relatively speaking, students declined most in the income area (from 71.9 percent to 57.6 percent) and least in the saving and spending areas, where declines were negligible.

Table 2-5 shows that the highest degree of dispersion among income categories was in the income questions, where scores ranged from 47.2 percent for the lowest-income students to 65.6 percent for those with parents whose incomes were between \$40,000 and \$80,000 dollars per year. Males did better than females in the income and money management questions and worse in the saving, spending and credit scores.

² There were seven income questions, including questions 2, 5, 16, 18, 26, 28 and 29, four money management questions, including 7, 22, 25 and 30, eight savings questions, including 3, 9, 10, 13, 14, 15, 17 and 19, and eleven spending questions, including questions 1, 4, 6, 8, 11, 12, 20, 21, 23, 24 and 27. The subset of credit questions includes 1, 6, 8, 11, 12, 20, 21, 24 and 27.

Table 2-5
Subject Results by Background

	<u>Income Score</u>	<u>Money Management Score</u>	<u>Saving Score</u>	<u>Spending Score</u>	<u>Credit Score</u>
All Students 2000	57.6%	46.8%	45.3%	55.1	49.1%
<i>All Students 1997</i>	<i>71.9%</i>	<i>54.2%</i>	<i>47.4%</i>	<i>56.8%</i>	<i>46.9%</i>
<u>Parents' Income</u>					
Less than \$20,000	47.2	43.9	41.1	50.1	44.9
\$20,000 to \$39,999	57.9	45.0	44.0	56.7	50.8
\$40,000 to \$79,999	65.6	51.5	49.8	59.1	53.0
\$80,000 or More	61.6	50.0	49.9	56.3	50.3
Don't Know	50.3	42.0	40.2	50.3	44.2
<u>Highest Level of Parents' Education</u>					
Neither Finished H.S.	51.6	42.4	38.3	52.2	47.0
Completed H.S.	53.8	43.4	43.7	53.8	47.8
Some College	59.4	50.4	46.7	56.5	50.4
College Grad or More	63.4	48.9	48.4	57.0	50.8
Don't Know	47.0	41.5	41.2	49.2	45.0
<u>Sex</u>					
Female	56.0	45.7	45.5	55.2	49.2
Male	59.3	47.7	44.9	54.7	49.0
<u>Race</u>					
White	61.7	49.5	47.4	56.8	51.1
African American	50.3	44.8	42.0	49.2	42.9
Hispanic American	48.1	39.4	39.0	50.2	44.0
Asian American	57.4	43.8	47.1	59.3	52.6
Native American	41.8	32.1	33.9	42.2	38.1
Other	53.7	46.0	44.0	56.7	50.2

Subject Expertise by Money Management Experience

Table 2-6 shows results by money management experience. This table enables us to see whether money market experience in a particular area affects financial literacy in that area. For example, one might suspect that students who use their own credit card would score higher in the credit area than other students. However, the results show just the opposite, with credit card owning students scoring just 44.4 percent in the credit area, while students who don't use a credit card answer 49.2 percent of the questions correctly. Similarly, students who don't use an ATM card do slightly better on the spending questions than do students who use an ATM card.

On the other hand, students with savings accounts do substantially better on the savings questions than do students without savings accounts. However, these students do better than other students on the non-savings categories as well, leading to a conclusion that something other than their savings experience accounts for their higher overall rates of financial literacy.

Students who own stock in their parents' name do best on the savings questions (which include several questions relating to investments), but students who own mutual funds in their parents' name do the *worst* on these questions. In general, money management experience does not appear to relate strongly to knowledge of those areas that relate to the nature of the experience. Question by question analysis in the subsequent chapters will help pinpoint *any* benefit from this type of experiential learning.

Table 2-6
Subject Results by Money Management Experience

	<u>Income Score</u>	<u>Money Mgt. Score</u>	<u>Saving Score</u>	<u>Spending Score</u>	<u>Credit Score</u>
All Students 2000	57.6%	46.8%	45.3%	55.1%	49.1%
<i>All Students 1997</i>	<i>71.9%</i>	<i>54.2%</i>	<i>47.4%</i>	<i>56.8%</i>	<i>46.9%</i>
<u>Credit Card Use</u>					
Uses Own Card	52.2	37.7	46.8	52.9	44.4
Uses Parents' Card	52.1	46.6	41.0	50.2	51.1
Uses Own & Parents'	58.6	52.5	46.9	56.4	50.6
Doesn't Use Card	59.8	47.6	46.0	56.6	49.2
<u>ATM Card Use</u>					
Uses	57.1	46.1	45.7	54.6	48.1
Doesn't Use	57.9	47.0	45.0	55.3	49.7
<u>Auto Use</u>					
No License	53.7	45.1	43.8	54.6	48.5
License, No Car	53.1	42.0	41.5	56.4	51.6
Share Car, Pay Insur.	54.7	45.8	36.6	51.5	45.5
Share Car, Don't Pay	58.4	49.8	47.4	55.9	50.3
Own Car, Pay Insur.	60.0	46.6	47.5	55.9	50.5
Own Car, Don't Pay	58.9	47.1	45.1	54.7	48.0
<u>Bank Account</u>					
None	52.6	45.3	42.6	53.6	47.7
Savings Only	61.7	46.7	47.6	55.9	49.8
Checking Only	48.3	44.3	38.7	49.4	43.8
Savings & Checking	61.6	49.8	47.3	58.1	52.7
<u>Security Ownership¹</u>					
None	58.7	47.7	44.8	56.2	50.2
Stocks in Own Name	59.3	49.6	46.1	54.4	49.3
Stocks in Parents' Name	55.1	42.6	52.8	54.4	48.9
Mut. Funds, Own Name	56.3	47.8	49.3	53.2	47.7
Mut. Funds, Parents' Name	45.9	44.6	42.9	47.1	41.3

¹ Wording in this question is slightly different than the 1997 question.

Table 2-6 (continued)
Subject Results by Money Management Experience

	<u>Income</u> <u>Score</u>	<u>Money Mgt.</u> <u>Score</u>	<u>Saving</u> <u>Score</u>	<u>Spending</u> <u>Score</u>	<u>Credit</u> <u>Score</u>
All Students 2000	57.6%	46.8%	45.3%	55.1%	49.1%
<i>All Students 1997</i>	71.9%	54.2%	47.4%	56.8%	46.9%
<u>Employment History</u>					
Work FT Sum., PT School	59.0	47.9	45.9	55.7	49.9
Work FT Sum. Only	54.4	50.4	42.7	53.2	47.6
Work PT Sum., PT School	58.6	46.6	46.7	54.5	48.3
Work PT Sum. Only	60.7	44.0	45.5	55.9	49.8
Have Never Worked for Pay	51.9	44.1	41.8	54.7	49.3

Subject Expertise by Money Management Education and Perceived Knowledge

Table 2-7 relates scores on individual components of the survey exam to money management education, background and perceived knowledge. Among the interesting results from this table is the finding that students who have received an allowance with no chores tend to do as well as the others in the income questions, but substantially below the others in money management (which includes budgeting). This sheds some doubt on the hypothesis that a regular allowance teaches good budgeting and money management habits.

Students who have had coursework in economics tend to do as well as others in the income, money management and savings questions, but somewhat worse in questions relating to spending, particularly to those relating to credit. Finally, the greatest benefit from discussing money matters with parents appears to come in the credit area, where those who engage in this discourse sometimes or often do better than those who rarely or never discuss money matters with their parents.

Table 2-7
Subject Results by Money Management Education and Perceived Knowledge

	<u>Income Score</u>	<u>Money Mgt. Score</u>	<u>Saving Score</u>	<u>Spending Score</u>	<u>Credit Score</u>
All Students 2000	57.6%	46.8%	45.3%	55.1%	49.1%
All Students 1997	71.9%	54.2%	47.4%	56.8%	46.9%
<u>Where Students Learned</u>					
<u>Most About Managing</u>					
<u>Money</u>					
At Home	57.6	45.3	45.1	55.3	49.1
At School	55.5	45.4	45.8	54.6	49.1
From Friends	40.0	30.0	30.0	38.8	36.3
From Media	60.0	50.0	50.0	53.8	48.9
From Experience	59.5	51.5	46.0	56.0	50.2
<u>Classes in H.S.¹</u>					
<u>Entire Course, Money</u>					
Mgt./Personal Finance	57.3	44.6	45.1	54.8	49.2
<u>Portion of Course, Money</u>					
Mgt./Personal Finance	57.1	48.2	45.2	57.5	51.6
<u>Entire Course, Economics</u>					
Portion Course, Economics	58.5	48.6	45.5	54.2	47.7
Stock Mkt. Game in Class	61.6	52.3	48.3	56.8	50.7
<u>Money Management</u>					
<u>Knowledge</u>					
<u>Compared to Others</u>					
More than Most	60.5	47.5	47.1	55.5	49.8
Same as Most	57.7	47.7	44.9	56.0	49.8
Less than Most	55.2	43.4	44.4	52.4	47.4
Don't Know	48.9	41.0	38.5	51.5	45.3
<u>Discuss Money Matters</u>					
<u>with Parents</u>					
Never	45.5	36.7	39.0	45.3	39.2
Rarely	59.0	48.7	45.8	54.2	48.2
Sometimes	58.5	45.8	45.9	56.1	50.1
Often	58.1	48.2	45.3	56.0	50.2

¹ Percents may total more than 100 percent with multiple responses possible.

Table 2-7 (continued)
Subject Results by Money Management Education and Perceived Knowledge

	<u>Income Score</u>	<u>Money Mgt. Score</u>	<u>Saving Score</u>	<u>Spending Score</u>	<u>Credit Score</u>
All Students 2000	57.6%	46.8%	45.3%	55.1%	49.1%
<i>All Students 1997</i>	<i>71.9%</i>	<i>54.2%</i>	<i>47.4%</i>	<i>56.8%</i>	<i>46.9%</i>
<u>Allowance</u>					
Money as Needed	56.5	46.5	45.8	55.5	49.6
Allowance for Chores	58.9	48.4	45.5	55.4	49.7
Allowance, No Chores	58.5	40.5	41.5	51.2	45.2